UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/974,919	10/10/2001	Gregory K. Woods	000153	1081

23696 7590 06/01/2005

Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA 92121-1714

EXAMINER	
RYMAN, DANIEL J	

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/974,919	WOODS ET AL.	
	Examiner	Art Unit	
	Daniel J. Ryman	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 4-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/17/2005 have been fully considered but they are not persuasive. On page 7 of the Response, Applicant asserts that the references fail to teach "a controller, operable to control said cross-bar switch to interconnect any two of said plurality of bi-directional data ports by selectively enabling a control output associated with the interconnection of the two of said plurality of bi-directional data ports." Specifically, Applicant contends that the references fail to teach this limitation since the references teach using multiple control lines to enable a single cross-point. Examiner, respectfully, disagrees.

2. Applicant's assertions assume that the claim limitations require *only* one controller. However, Applicant's claims contain the transitional phrase "comprising." Therefore, while any references used must include the limitations presented in the claims, the references may also include further limitations. Here, Calvignac teaches that the input scheduler sends a control signal to enable a buffer of a cross-point (col. 4, lines 17-20). The input scheduler also ensures that the packet arrives at the correct cross-point such that the packet will be sent to the correct output port (col. 2, lines 29-33). Therefore, even though Calvignac discloses an additional controller (output scheduler) which schedules the output sequence for a particular port, Calvignac, nonetheless, discloses a controller (input scheduler) that enables a control output (gate) associated with the interconnection of the input port and the output port.

3. On page 7, Applicant further contends that "[b]ecause Meyer already describes machines interconnected in a flexible fashion, one of ordinary skill in the art would not look to modify the design by incorporating some other switch." However, this seems to assume that Meyer's system

is being modified using Calvignac. This is not the case. Rather, Examiner modifies Calvignac using Meyer's teachings relating to bi-directional ports. Therefore, it is precisely because Meyer teaches that the switch design is flexible that one of ordinary skill in the art would be motivated to incorporate such features in Calvignac's switch.

4. For the above reasons, Examiner maintains the rejection of claims 1, 2, and 4-17.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 2, 4-17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Calvignac et al. (USPN 6,195,335) in view of Meyer (USPN 5,933,449).

7. Regarding claim 1, Calvignac discloses an apparatus for selectively interconnecting a plurality of ports, comprising: a cross-bar switch (ref. 110) (col. 2, lines 19-25 and col. 3, lines 16-18), having a plurality of input and outputs (col. 2, lines 19-25 and col. 3, lines 11-15), and a controller (input and output scheduler) (col. 2, lines 29-33; col. 2, lines 37-49; and col. 4, lines 17-20 and col. 4, lines 36-44), operable to control said cross-bar switch to interconnect any one of said plurality of inputs and any one of said plurality of outputs (input-output pair) by selectively enabling a control output associated with the interconnection of the inputs and outputs (col. 2, lines 19-22), wherein said cross-bar switch includes a plurality of digital buffers (col. 2, lines 23-25 and col. 3, lines 44-50).

Calvignac does not expressly disclose that the plurality of input and outputs comprise a plurality of bi-directional data ports. Meyer teaches, in a crossbar switching system, the plurality of input and outputs comprise a plurality of bi-directional data ports "[i]n order to allow an ensemble of machines to be interconnected in a flexible fashion" (col. 1, lines 31-38). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the plurality of input and outputs comprise a plurality of bi-directional data ports in order to allow an ensemble of machines to be interconnected in a flexible fashion.

8. Regarding claim 2, Calvignac in view of Meyer discloses that said plurality of bi-directional ports are adapted to interconnect RS-232 ports (Meyer: col. 12, line 59-col. 13, line 15).

9. Regarding claims 4 and 11, Calvignac discloses an apparatus, comprising: a plurality of n inputs and n outputs (col. 2, lines 19-25 and col. 3, lines 11-15); a plurality of n(n-1) buffers (col. 2, lines 23-25 and col. 3, lines 44-50), each having an input, an output, and a control input (col. 2, lines 23-25 and col. 3, lines 44-50), and wherein said control inputs enable and disable the coupling of signals through said buffers, respectively (col. 2, lines 29-33; col. 2, lines 37-49; and col. 4, lines 17-20 and col. 4, lines 36-44); an interface controller (input and output scheduler) having a plurality of (nC2) control outputs, and operable to enable any one of said plurality of outputs individually (col. 2, lines 29-33; col. 2, lines 37-49; and col. 4, lines 17-20 and col. 4, lines 36-44), and wherein said outputs of a unique (n-1) of said plurality of buffers are coupled to said input of each one of said plurality of outputs (col. 2, lines 19-25); every one of said outputs is uniquely coupled to said input of one of said (n-1) plurality of buffers that are coupled to said inputs (col. 2, lines 19-25), such that said output is coupled to said input through a unique one of

said plurality of buffers (col. 2, lines 19-25), and each one of said plurality of control outputs is coupled to said control inputs of the one of said plurality of buffers that couples a unique pair of the (nC2) combinations of said inputs and outputs (col. 2, lines 29-33; col. 2, lines 37-49; and col. 4, lines 17-20 and col. 4, lines 36-44).

Calvignac does not expressly disclose that the plurality of input and outputs comprise a plurality of bi-directional interfaces. Meyer teaches, in a crossbar switching system, the plurality of input and outputs comprise a plurality of bi-directional interfaces "[i]n order to allow an ensemble of machines to be interconnected in a flexible fashion" (col. 1, lines 31-38). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the plurality of input and outputs comprise a plurality of bi-directional interfaces in order to allow an ensemble of machines to be interconnected in a flexible fashion.

10. Regarding claims 5 and 12, Calvignac in view of Meyer discloses means for disabling control inputs by setting said outputs of said buffers to a high impedance state (Meyer: col. 2, lines 21-23), and wherein said interface controller is operable to disable all of said control inputs (Calvignac: col. 2, lines 33-36).

11. Regarding claims 6 and 13, Calvignac in view of Meyer discloses that said interfaces are serial port interfaces (Calvignac: col. 3, lines 44-50 and Meyer: col. 12, line 59-col. 13, line 15).

12. Regarding claims 7 and 14, Calvignac in view of Meyer discloses that said serial port interfaces are RS-232 serial port interfaces (Meyer: col. 12, line 59-col. 13, line 15).

13. Regarding claims 8 and 15, Calvignac in view of Meyer discloses that said output of said serial port interface is a transmit data output, and said input of said serial port interface is a receive data input (Meyer: col. 12, line 59-col. 13, line 67).

14. Regarding claims 9 and 16, Calvignac in view of Meyer discloses that said output of said serial port interface is a request to send output, and said input of said serial port interface is a clear to send input (Meyer: col. 12, line 59-col. 13, line 67).

15. Regarding claims 10 and 17, Calvignac in view of Meyer discloses that said interface controller is incorporated into one of said interfaces (Meyer: col. 4, lines 14-17).

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman
Examiner
Art Unit 2665

DJR

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600